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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,696	12/16/2003	Michael Man-Hak Tso	12487/10	8984

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EXAMINER	
HAILE, AWET A	
ART UNIT	**PAPER NUMBER**
2609	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/735,696	MAN-HAK TSO ET AL.	
	Examiner	Art Unit	
	Awet A. Haile	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15,18,20-26 and 28-33* is/are rejected.

7)☒ Claim(s) *16,17,19 and 27* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/09/2004 and 12/02/2004*
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections – 35 USC§ 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claim 30 -33 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 30 –33 are directed to a non-statutory subject matter because the claim recites, " machine-readable medium " which is not a useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.

Note: To overcome the rejection, it is suggested to the applicant to amend the claims to be written in terms of "computer" readable medium, stored with, embodied with or encoded with a "computer" program or computer executable instructions.

Claim Rejection – 35 USC§ 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 7-10, 18, 30 is rejected under 35 U.S.C. 102(e) as being anticipated by Hannel et al (US 719535 B2)

For claim 1, 7-10,18 and 30 Hannel et al discloses a method of processing incoming data, comprising: receiving incoming data; and determining whether to employ stateless routing of the incoming data based on a destination host associated with the incoming data (see column 8, lines 22 –45) as recited in claim 1 and 30. Storing historical data for the destination host; and determining whether to employ stateless routing based on the historical data (see column 5 lines 38 – 41) as recited in claim 7, the historical data includes at least one of previous stateless routing outcomes and previous routing latencies (see column 5 lines 39-40) as recited in claim 8. Calculating a success rate probability

based on the previous routing outcomes (see column 7, lines 26 -28) as recited in claim 9 and 18. Calculating a weighted latency average based on the previous routing latencies (see column 7 lines, 29-31) as recited in claim 10.

Claim Rejection – 35 USC§ 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 2,3,5,6, 11 - 13, 20-23, 25, 28-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hannel et al in view of Gazsi et al (US 2001/0030961 A1)

For claims 2,3,5,6,23,28,31 and 32 Hannel et al discloses the method of determining that stateless routing is to be employed (see column 8, lines 22 – 45) as recited in claims 2, 23

and 31.Withholding confirmation of receipt of the incoming data until confirmation of delivery is received from either the destination host or a downstream router (see column 10, lines 11-21) as recited in claim 3, 23 and 32. Receiving the confirmation of delivery and sending the confirmation of receipt toward a sender of the incoming data. Sending confirmation of receipt of the incoming data toward a sender of the incoming data (see column 10, lines13 –16) as recited in claim 5,6 and 23. Historical data includes at least one of previous stateless routing outcomes and previous stateless routing latencies (see column 5 lines 39-40) as recited in claim 25. Generating a probability decision representative of whether stateless routing is to be employed (see column 7, lines 26 -28) as recited in claim 28.

However, Hannel et al fail to teach storing the incoming data only in volatile memory as recited in claims 2, 23 and 31.The incoming data is received in a data channel and the control data is received in a control channel as recited in claim 11 and 12.The incoming data and the control data are received in a data channel as recited in claim 13.The incoming data is received over a first connection, sending the incoming data toward the destination host over a second connection, the first and second connections being part of a virtual circuit: the sending of the incoming data begins before completion of the receiving of the incoming data as recited in claims 20 and 21. The incoming data includes a message as recited in claim 22. The sending of the message begins before completion of the receiving of the message as recited in claim 29

Gazsi et al from the same field of endeavor teaches storing the incoming data only in volatile memory (paragraph 37, line 12 – 15) as recited in claims 2, 23 and 31.The incoming data is received in a data channel and the control data is received in a control channel (see paragraph 37, lines 7-8) as recited in claim 11 and 12.The incoming data and the control data are received in a data channel (see paragraph 38 lines 7-9) as recited in claim 13. The incoming data is received over a first connection, the method further including sending the incoming data toward the destination host over a second connection, the first and second connections being part of a virtual circuit: the sending of the incoming data begins before completion of the receiving of the incoming data (see paragraph 43 lines1 – 12) as recited in claim 20 and 21. The incoming data includes a message (see paragraph 37, line 6-7) as recited in claim 22. The sending of the message begins before completion of the receiving of the message. (See paragraph 43 lines1 – 12) as recited in claim 29

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the method of storing the incoming data only in volatile memory, receiving the incoming data in a data channel and the control data in a control channel using the virtual circuit, sending a message before completion of receiving a message as taught by Gazsi et al in to the programmable stateless packet processor 110 and the processor memory 202 of Hannel et al. The motivation for doing this is to save memory space and decrease the processing time of incoming packets.

8. Claims 4,14, 15, 24, 26 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hannel et al and Gazsi et al as applied to claim 3,11, 23 and 32 above, and further in view of Nielsen et al (US 2003/0074413 A1).

For claims 4,14, 15, 24, 26 and 33 Hannel et al and Gazsi et al teach all of the subject mater with the exception of the control data includes at least one of a time-to-live value, a hop count value and a maximum hop value for the message as recited in claim 14 and 26. Reducing at least one of the time-to-live value and the maximum-hop value if the incoming data is associated with a plurality of destination hosts as recited in claim 15. A copy of the incoming data is to be stored in nonvolatile memory by a sender of the incoming data as recited in clams 4, 24 and 33.

Nielsen et al from the same field of endeavor teach the control data which includes at least one of a time-to-live value, a hop count value and a maximum hop value for the message (see paragraph 50, lines 8-14); reducing at least one of the time-to-live value and the maximum-hop value if the incoming data is associated with a plurality of destination hosts (see paragraph 53, line 1-5). A copy of the incoming data is to be stored in nonvolatile memory by a sender of the incoming data (see paragraph 45, lines 1-4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the method of adding a hop count value, time to live value in to the control data and storing sent messages in nonvolatile memory as taught by

Nielsen et al in to the modified programmable stateless packet processor and buffer memory of Hannel et al. The motivation for doing this is to avoid infinite routing loops.

For claims 4, 24 and 33 Hannel et al, Gazsi et al and Nielsen et al discloses all the subject matter with the exception of storing the incoming data until the confirmation of receipt is received at the sender as recited in claim 4, 24 and 33. However the method of storing the incoming data until the conformation of receipt is received at the sender is a well known in the art.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the method of storing sent data until the conformation is received in to the modified programmable stateless packet processor as taught by Hannel et al. The motivation for doing this is to prevent data loss because transmission error.

Allowable Subject Matter

9. Claim 16, 17, 19 and 27 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter

For claims 16, 17,19 and 27 the prior art fail to teach alone or in combination generating a binary decision for each of the plurality of destination hosts; and performing an AND operation between each of the binary decisions to represent whether stateless routing is to be employed. Multiplying the probability decisions together to represent whether stateless routing is to be employed.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Maes et al (US 6801604 B2), Klein et al (US 2003/0212818 A1), Barraclough et al (US 2001/0024436 A1), Schuster et al (US 6822957 B1) are recited to show stateless routing.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Awet Haile whose telephone number is (571) 270-3114. The examiner can normally be reached on Monday - Thursday 10:00 AM – 5:00 PM EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dang Ton, can be reached on (571) 272-3171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, Call 800 –786-9199(IN USA OR CANADA) or 571-272-1000.

A.H

Tom

DANG T. TON
SUPERVISORY PATENT EXAMINER